

EXHIBIT A

Expert Report of James F. Gruden, M.D.

To: Patricia A. Washienko, Esq.
From: James F. Gruden, M.D.
Re: Charu Desai v. UMass Memorial Medical Center, et al.
Date: July 30, 2021

I. Materials Reviewed

I have reviewed the 50 CT examinations and their official reports (QACH 1- 50; UMM00553-UMM00689) that were interpreted by Dr. Desai and by other radiologists in the same Department at Marlborough Hospital. After reviewing each individual CT examination blindly, I then reviewed the official report for each study and the over-reviewer's provided "log of misreads" one case at a time (UMM00695-UMM00696). I intend to offer opinions on whether Dr. Desai made significant errors; whether the other radiologists made significant errors at Marlborough Hospital; and whether the peer review process here was fair. My opinions are based on my review of the records and radiologic studies, my education and training, my knowledge of the relevant medical literature, and my experience and expertise in the field of radiology, particularly in thoracic radiology.

II. Qualifications, List of Cases, and Fee Schedule

I am a board certified radiologist. I earned a Bachelor of Arts in Economics and Pre-Professional Studies with Highest Honors in 1983 from the University of Notre Dame and my M.D. degree in 1987 from the University of Miami, School of Medicine, where I was class Valedictorian and was inducted to the Alpha Omega Alpha medical honor society. I completed my internship year in Internal Medicine at Cabrini Medical Center in New York, New York. I completed my residency training in Diagnostic Radiology (1988-1992) at the New York Hospital-Cornell Medical Center. I further completed a one-year Fellowship in Thoracic Imaging at the University of California-San Francisco.

I was thereafter appointed as Assistant Professor of Radiology in Residence at the University of California-San Francisco. From 1995 through 2000, I served as Assistant Professor of Radiology at NYU School of Medicine. In early 2000, I was appointed Associate Professor of Radiology and Internal Medicine at Emory University School of Medicine in Atlanta, Georgia. I served as the Division Director of Cardiothoracic Imaging at Emory University Hospital and Clinic and founded Emory's Biomedical Imaging and CT Post-Processing Lab. From 2005 through 2015, I was at the Mayo Clinic Arizona in Phoenix-Scottsdale, Arizona, where I served as the Director of Cardiothoracic Imaging. In January 2015, I was appointed as the Chief of the Division of Body Imaging in the Department of Radiology at Weill Cornell Medical College and at the New York-Presbyterian Hospital-Weill Cornell Campus. I further serve as a Full Professor of Radiology at Weill Cornell Medical College and Assistant Attending Radiologist at the New York-Presbyterian Hospital - Weill Cornell Campus. Through my education, training, review of the medical literature and my other professional activities, I am familiar with the standard of care as it pertains to the practice of radiology, and specifically thoracic radiology.

A copy of my CV including my last 10 years of publications is attached to this report at **Exhibit A**. A list of the cases I have testified in as a witness for the last 4 years is attached at **Exhibit B**. I further state that I am being compensated as an expert in this case at the rate of \$500 per hour. I have spent approximately 28 hours up to this point on this case at the present time.

III. Summary of Findings and Testimony

Based on my review of the scans and reports, Dr. Desai made no significant errors of interpretation and no errors in reporting and certainly there are, therefore, no errors that would affect immediate patient management or outcome. The reports are concise and accurate without significant typographical or descriptive errors. In addition, the reports do not recommend additional unnecessary imaging examinations. They are well within the expected standard of care at an urban teaching hospital. The “criticisms” of Dr. Desai’s reporting are entirely subjective, and I found none of them to be clinically significant. I elaborate further below.

Of note, all cases were submitted in a small window in early 2017, and I am not certain why this type of “targeted review” was performed. The method of peer review used here does not conform to any appropriate or well-known guidelines for a fair peer review process. This appears to be a hastily performed focused and targeted project, the need for which I do not know. I find no issues with the accuracy or content of Dr. Desai’s reports.

Specific analysis of cases interpreted by Dr. Desai, which the over-reviewer claimed were misreads, are as follows:

QACH08 R/O PE 2/4/17

The report here states that RLL and RML consolidation are unchanged since recent prior (prior CT was recent)- she did not call this rounded atelectasis, and I assume it was called round atelectasis on the prior exam (I do not have the report from that study). Regardless, the report clearly states that the appearance of the right lung has not changed.

The report mentions worsening consolidation in the LLL in the findings, but this should have been added to the impression. This is a reasonable critique, but the finding was not missed.

OVERALL: This was a PE study on an inpatient with a recent prior. The case was correctly read as no PE, no change RLL and RML consolidation, and worsening LLL consolidation. ***The impression could have added the LLL consolidation, but this is not a major interpretive error. The important findings were made and reported.***

QACH09 R/O PE 2/21/17

The report correctly states that there is no PE. It mentions a scapular fracture that I do not clearly see but there may have been added clinical information that I do not have. Pneumonia and pulmonary edema can be difficult to distinguish, especially in patients with emphysema (as in this case). The criticism is that the findings suggest pneumonia, not pulmonary edema, and that fat embolism should have been raised as a possibility. Fat embolism occurs in the setting of

long bone fracture, and I do not see that history provided (and I am not sure that your client had this history). Interestingly, the CT appearance of fat embolism looks very much like pulmonary edema so the criticism here is that fat emboli (which would look like “edema”) should have been mentioned but that pulmonary edema should not have been mentioned and the findings were more likely pneumonia. This is not a logical criticism and a patient with long bone fractures and “pulmonary edema” on a CT would be suspected clinically of having fat embolism. We do not directly see “fat embolism” on CT: we see its effects, which look like pulmonary edema.

OVERALL: *The reading on this case is well within expected standard of care.* Fat embolism, cardiogenic edema, and diffuse pneumonia can be hard to distinguish with certainty on one CT exam. This is not an uncommon problem, and I am not sure how we decide who is correct in a case such as this, but the initial report looks fine.

QACH10 R/O PE, 2/27/17

The critique here states that multifocal pneumonia and bronchitis were not clearly stated, a “major error.” The report very clearly discusses a mild multifocal pneumonia in both the Findings and Impression sections. There is also an issue because the report did not mention “bronchitis.” However, emphysema was mentioned in this report. Emphysema indicates a history of significant cigarette smoking which is basically always associated with “bronchitis.” The “bronchitis” in these patients is typically chronic and managed clinically. The scan quality is poor (breathing artifact, mentioned in report) and the exam is therefore more difficult to interpret, but again, it was correctly read as to the primary indication: no PE. We rarely mention “bronchitis” in patients with emphysema as it can be assumed to be present.

OVERALL: *I do not see the point of the criticism. The report is accurate.*

QACH11 R/O PE, 3/7/17

I am not sure what the critique here is. It refers to contusions being reported, but that was reported in Case 12, not Case 11, and in that case, I agree that they are likely not contusions. Case 12 was not read by your client according to my records. However, in Case 11, if that is really the case in question, I see no problem with the interpretation or report. Again, the scan quality is not great (breathing artifact).

OVERALL: *No discrepancy or problem with Case 11. The critique appears to apply to Case 12, which I am happy to address if needed.*

QACH30 noncontrast CT for Dyspnea, 2/25/17

A prior CT was two weeks earlier (although I do not have access to the report). The current report describes “infiltrates” in the left lung in both the Findings and Impression sections. While they are not specifically reported as NEW (as the critique states), the scan two weeks ago likely did not report this finding, and the referring physicians are able to realize that the findings are new based on the report, the clinical change in the patient, and referring to the prior scans and the prior report. Secretions in the trachea (not mentioned and raised as a criticism) are present in many patients with pneumonia (and COPD) and failure to mention this finding is not at all important in this instance. It is really a subjective decision by the radiologist as to whether this finding is significant enough to place in the report (it was not in this case). The lymph nodes may well be reactive (as stated in the criticism), but in a patient with a history of an advanced cancer, I see no problem with following these with a future CT to be sure. That is actually the standard of care in this instance.

OVERALL: *Quarrels with the use of the word “new”, the failure to mention tracheal secretions, and the critique of the recommended follow-up of mediastinal adenopathy are unfounded and based on subjective opinion. There is nothing wrong with this report.*

QACH33 noncontrast CT for air leak, 2/16/17

This is a complex patient with many findings and no prior imaging. The report accurately reports all the important findings. The criticism centers on the position of one of the chest tubes, which is in fact reported as IN THE MEDIASTINUM in both the Findings and Impression of the report, and there is documentation of a call to the clinical team discussing the results.

OVERALL: *The chest tube in question is reported as IN THE MEDIASTINUM. It is clear this means it is NOT in the pleural space. The criticism is unfounded.*

QACH34 noncontrast CT for cough and weight loss, 2/14/17

The report very clearly describes both emphysema and COPD and describes secretions in the airways. A LLL infiltrate is also reported. The critique, called minor but apparently this qualified as an impact on patient care, states that LLL pneumonia was not mentioned (it was) and that there was severe “bronchitis.” I do think that the mention of emphysema, COPD, and secretions in the airways in a patient known to be a smoker clearly means that “bronchitis” is present.

OVERALL: *The report is accurate, and no information was omitted.*

QACH38 noncontrast CT, cough and SOB, 1/7/17

The report is accurate. The important findings are reported. The criticism is that there is “large and small airways disease with air trapping.” Airway inflammation is basically always present in patients who smoke and who have emphysema and underlying small airway obstruction is also

uniform in this population. I do not see air trapping without expiratory images, which were not performed, but regardless: the patient is a smoker or former smoker with emphysema- this explains the clinical picture and I have no doubt that airway inflammation and small airway obstruction are also present- it is part of the overall smoking-related disease- reporting these things absolutely does not change management in this particular scenario.

OVERALL: *This report is fine. Criticism is inaccurate (air trapping seen only with expiratory images) and subjective.*

QACH42 CT with contrast, nodule in a patient with HEENT cancer, 2/16/17

This report is totally accurate.

The critique states that primary lung cancer is more likely than metastatic disease, and of course this is true but depends on how aggressive the HEENT cancer is and what cell type it is- this an appropriate report and stating that primary lung cancer is more likely than a metastasis absolutely does not change patient management.

The criticism that venous collaterals were not mentioned is interesting. These enhanced veins are the normal reflux of contrast down branch veins from a rapid contrast injection.

OVERALL: *This report is fine. The criticism is both unfounded and inaccurate.*

QACH50 CT with contrast, chest wall pain, 1/10/2017

This is a complex case and the discrepancies were minor and had no bearing on management. If this becomes important later, we can look more closely.

OVERALL: *No significant discrepancies on a complex case.*

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The reports of the other radiologists' reads at Marlborough Hospital, however, contain numerous typographical errors, and several have interpretive errors. My findings suggest that more thorough, consistent, and unbiased peer review and quality improvement projects are needed for the other radiologists who were involved in these cases.

Specific analysis of cases interpreted by radiologists other than Dr. Desai at Marlborough Hospital follows.

QACH22 noncontrast CT to follow a lung nodule

The Findings section states that the larger peripheral nodule has increased in size, and reports another nodule but does not give a measurement or image number (both of which should be provided). In the Impression, it states that the larger peripheral nodule is stable and the more central nodule has increased 1-2 mm in size. This contradicts the statement in the Findings section. In addition, measurement error is generally considered 1-2 mm on CT of nodules, so a 1-2 mm difference would not be considered significant. The report describes “biapical fibrous change.” This actually appears consistent with an entity called pleuroparenchymal fibroelastosis (PPFE), which is not mentioned.

OVERALL: *The Findings and Impression sections are contradictory, and the nodules are not thoroughly reported or measured.* The entity of PPFE was not suggested.

QACH23 noncontrast CT to follow a lung nodule

This exam shows a few tiny nodules (that were reported previously and have not changed) that all have a typical benign appearance. The appearance, coupled with the stability since the priors, should indicate that these are benign and require no follow-up. Instead, the entire Fleischner Guidelines are attached to the report with follow-up recommendations. This is cumbersome for the patient and referring doctor to read and is also unnecessary.

OVERALL: *The nodules on CT have a benign appearance and the report should have stated that no follow-up was needed.*

QACH24 noncontrast CT to follow lung nodules

The impression states that the patient has “scattered” apical cystic disease. This CT is actually a classic example of paraseptal emphysema and bullous disease and not cystic lung disease. “Cystic lung disease” implies a whole different set of pulmonary disorders for which the diagnostic evaluation can be costly and possibly invasive (and here, unnecessary).

OVERALL: *The incorrect impression of cystic lung disease affects differential diagnosis and patient management.*

QACH25 noncontrast CT to follow lung nodules

The report describes stable tiny nodules (seen previously) and correctly states that no follow-up is needed. However, there are typos in the report, including in the Findings section where the location of the nodules is specified. This is not an acceptable report. In addition, unnecessary added tests (ultrasound of the gall bladder and kidney) were recommended for simple gallstones and renal cysts-no added imaging needed to be done.

OVERALL: *Significant typographical errors in the description of the nodules and their location- the impression of benign nodules is correct, but typos in the key sections of a*

radiology report are careless and sloppy. Unnecessary added testing was recommended for benign findings.

QACH46 CT with contrast to assess for pulmonary embolism (PE)

Emboli are reported but again, in BOTH the Findings and Impression sections, there are significant typographical errors in the description of the emboli and their location. This is indefensible as these are critical findings and these errors are extensive. This indicates that the radiologist clearly does not proof reports before signing them, and this type of report is well outside the standard of care. In addition, these small emboli would be unlikely to cause right heart strain as reported: the right ventricle is not definitely dilated. Reporting emboli with right heart strain can significantly affect patient management leading to possibly unnecessary aggressive therapy. This finding was best omitted from the report or perhaps a cardiac echo should have been recommended to assess the equivocal right heart prominence.

OVERALL: *Typos in both the Findings and Impression section make the report incoherent. These are urgent findings that must be accurately documented. Here, the errors occur in two separate parts of the same report. This is again sloppy and well outside the standard of care.*

In general, these radiologists do not have guidelines regarding how to structure a proper, clinically useful CT report. There is no consistency in how the reports are structured. There is little or no attention to detail in terms of proper description of abnormalities and many findings are poorly or inaccurately reported. Typos (and retained brackets from pre-filled templates) are rampant; punctuation is essentially nonexistent. These reports come across as hurried, careless, and sloppy and are often not accurate. A much more intensive QA with remediation is warranted.

IV. Expert Opinions

Based on my interpretation of the CT scan images and corresponding reports, which were listed in the over-reviewer's findings as containing misreads by Dr. Desai, I have formed an opinion to a reasonable degree of certainty that Dr. Desai made no significant errors of interpretation and no errors in reporting. Certainly there are, therefore, no errors that would affect immediate patient management or outcome and/or that would justify termination.

Based on my interpretation of the CT scan images and corresponding reports, which were listed in the over-reviewer's findings as having been read by radiologists other than Dr. Desai at Marlborough Hospital, I have formed an opinion to a reasonable degree of certainty, that those reports contain numerous, significant, and inexplicable typographical errors and several significant interpretive errors. Other reports recommended unnecessary additional imaging examinations to evaluate insignificant findings. The reports of those studies conducted by other radiologists fell outside a reasonable standard.

Finally, based on my experience as a radiologist at a major hospital and the apparent methodology of the instant review (i.e., that all of the cases were submitted in a small window in early 2017), I have formed an opinion to a reasonable degree of certainty, that the method of peer review used in this case does not conform to any appropriate or well-known guidelines for a fair peer review process.

SIGNED UNDER THE PAINS AND PENALTIES OF PERJURY ON THIS DAY OF
JULY_____, 2021.

James F. Gruden, M.D.